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EXAMINER

RUTTEN, JAMES D

ART UNIT	PAPER NUMBER
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2192

MAIL DATE	DELIVERY MODE
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10/01/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/753,857

Applicant(s)

CHARI ET AL.

Examiner

J. Derek Rutten

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1/8/04, 10/12/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-26 have been examined.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. It is noted that the *Claim For Foreign Priority* filed 3/11/04 claims priority to prior Canadian Application No. **10/753857**, which is the same number as the instant application, filed on 12/17/03. However, the reference to 10/753857 does not match the corresponding Certified Copy of the Foreign Application, which lists Canadian Patent Application No. 2,453,605. It is further noted that a serial number appearing in the footer of the certified copy, i.e. CA9-2003-0118, appears to correspond with the Attorney Docket Number of the instant application, i.e. CA920030118US1. Thus, the claim for foreign priority is interpreted as being directed to Canadian Application No. 2,453,605. The reference to prior Canadian Application No. 10/753857 on the *Claim For Foreign Priority* appears to be a typo, which should instead claim priority to Canadian Application No. 2,453,605. Clarification is required.

Information Disclosure Statement

4. It is noted that reference AB on the 10/21/04 IDS is identical to reference AD on the 1/8/04 IDS. The reference has been considered.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 11 and 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 states:

wherein the first step in generation of the executable version is the conversion step, such that the set of coupled transformation modules are reconfigured directly into the executable version of the coupled transformation module.

It is noted that “the set of *coupled* transformation modules” [emphasis added] as recited in claim 11 is interpreted as being the same as “the set of transformation modules” recited in claim 1.

The first step in the conversion step is conversion of the set of transformation modules into a common model format. However, claim 11 appears to reconfigure the conversion element of claim 1 such that no common model format version is created in the direct conversion to an executable version. Thus, it is not clear if the conversion step of claim 1 remains intact such that a common model format is created, or if only an executable is generated and thereby effectively eliminating the conversion step of claim 1. In other words, does the generating step of claim 11 replace the converting step of claim 1? Alternatively, the conversion step could be left unchanged, while an additional conversion step is present in the generation step. Claim 23 contains limitations that are similar to claim 11 and is rejection for the same reasons presented above. For the purpose of further examination, the claim will be interpreted as simply adding a conversion step within the generation step.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-9, 12-21, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over prior art of record U.S. Patent 5,694,578 to Upson et al. ("Upson") in view of U.S. Patent 5,421,008 to Banning et al. ("Banning").

In regard to claim 1, Upson discloses:

A method for deploying a set of coupled data transformation modules describing a data transformation, the data transformation for transforming a data structure from a first format to a second format See column 4 lines 35-39, e.g. "allows a user to convert data in a given structure into a desired data structure." Note that part of the method is described in column 4 lines 43-53. Note that a set is commonly understood to contain anywhere from 0 members (the null or empty set) to an infinite number of members.

Here, Upson at least discloses a set with 1 member.

the method comprising the steps of:

receiving an instruction for selecting the set of transformation modules from a memory; See column 10 lines 30-31, e.g. "[a]ny valid data transform program in the data transform library may be chosen." Note that the act of choosing necessarily requires an

associated instruction. Without an instruction for selection, the library could not respond with the appropriate modules.

converting each of the set of transformation modules to a common model format, the set of modules having at least one transformation module being of a module type of a type set including ... visually constructed modules; and See column 4 lines 36-41, e.g. “visual graphical input template.” Also see column 5 line 65 – column 6 line 6, in connection with FIG. 3, elements 70, 72, 80, 82, and 86. A visual program is constructed by a user and is then converted to a “common model format” as described in column 6 lines 11-16, e.g. “[e]ach complete data transform contains three pieces...”

generating an executable version of the converted transformation modules suitable for execution by a data transformation engine; See column 3 lines 34-42, e.g. “generation of executable code.” Further, see column 5 lines 50-52, e.g. “converts the data transform specification into a program.”

wherein the executable version when executed transforms the data structure from the first format to the second format. See column 10 lines 24-26, e.g. “[t]he data scribe module 94 executes a data transform program, and converts an input data structure into the desired output structure.”

While Upson discloses visually constructed modules (e.g. column 4 lines 36-38 “visual graphical input template” as cited above), Upson does not expressly disclose: *at least one transformation module being of a module type of a type set including language constructed modules.* However, Banning teaches that text based instructions could be

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saved in a common data model along with visual based instructions. See column 8 lines 31-35:

One aspect of the invention was the recognition that translation or conversion between **text based SQL query statements** and graphically based visual query representations requires the creation and use of a common data structure. [emphasis added]

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Banning's teaching of text or language based statements with Upson's translation modules in order to utilize any established and valuable module base as suggested by Banning (see column 1 lines 56-57).

In regard to claim 2, the above rejection of claim 1 is incorporated. Upson further discloses: *employing a user interface to generate the instruction for coordinating the creation of the converted common models.* See FIG. 3, element 70.

In regard to claim 3, the above rejection of claim 2 is incorporated. Upson further discloses: *updating a module registry to include entries corresponding to each of the converted common modules.* See column 6 lines 7-8, e.g. "data transform librarian 88."

In regard to claim 4, the above rejection of claim 3 is incorporated. Upson and Banning do not expressly disclose: *including a name of each of the converted common modules in the entries of the registry, the names for retrieving the corresponding common modules from the memory in response to the instruction.* However, Banning teaches including a name in an entry in a registry that is used to retrieve entries from memory. See column 8 lines 61-62. It would have been obvious to one of ordinary skill in the art

at the time the invention was made to use Banning's teaching of names in registry entries with Upson's library in order to retrieve a referenced module as suggested by Banning.

In regard to claim 5, the above rejection of claim 2 is incorporated. Upson further discloses: *wherein the set of coupled transformation modules includes at least two transformation modules*. See FIG. 10, which shows two input modules and one output module.

In regard to claim 6, the above rejection of claim 5 is incorporated. Upson further discloses: *wherein the executable version is represented by at least one deployment module*. See FIG. 3, element 94.

In regard to claim 7, the above rejection of claim 1 is incorporated. Upson further discloses: *wherein the common model format contains all information for use in implementing the transformation functionality of the original coupled transformation modules*. See column 6 lines 11-16, e.g. "complete data transform."

In regard to claim 8, the above rejection of claim 7 is incorporated. Upson further discloses: *removing a portion of visual interface contents from each of the visually constructed modules during conversion of the visual modules to the common model format*. See column 6 lines 11-16, e.g. "complete data transform." Note that the visual interface contents are not saved in the process of conversion.

In regard to claim 9, the above rejection of claim 7 is incorporated. Upson further discloses: *wherein the common model format is different from both the format of the language constructed modules and the format of the visually constructed modules.* See column 6 lines 11-16, e.g. “complete data transform.” Upson teaches conversion to a different format than the visual template. Further, Banning’s common data structure teaches a format that is different from original language based format. See column 8 lines 31-35.

In regard to claim 12, the above rejection of claim 1 is incorporated. Upson further discloses: *wherein the step of receiving the instruction is performed after the step of converting the set of transformation modules to a common model format.* See column 10 lines 30-31 as cited above. The programs in the data transform library have already been converted.

In regard to claim 13, Upson discloses:

A system for deploying a set of coupled data transformation modules describing a data transformation...; See FIG. 1

a memory for storing the set of transformation modules; See column 3 lines 48-50, e.g. “module library.”

a format module for converting ...; See column 5 lines 52-55 and column 6 lines 1-5 along with FIG. 3 elements 80 and 74. Note that both represented elements are interpreted as provided a format module.

and a deployment engine ... See column 5 lines 50-52, also FIG. 3 element 72.

All further limitations have been addressed in the above rejection of claim 1.

In regard to claims 14-21 and 24, the above rejection of claim 13 is incorporated. All further limitations have been addressed in the above rejections of claims 2-9 and 12, respectively.

In regard to claim 25, Upson discloses:

A computer program product ...comprising: a computer readable medium. See FIG. 1, element 20 as described in column 2 lines 37-47. All further limitations have been addressed in the above rejection of claim 13.

In regard to claim 26, Upson discloses:

A computer readable medium containing computer executable code.... See column 3 lines 48-50, e.g. "module library." All further limitations have been addressed in the above rejection of claim 1.

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9. Claim 10, 11, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Upson and Banning as applied to claim 9 above, and further in view of “Compilers: Principles, Techniques, and Tools” by Aho et al. (“Aho”).

In regard to claim 10, the above rejection of claim 9 is incorporated. Upson and Banning do not expressly disclose: *wherein the common model format is generic for suitable generation of the executable version for a selected one of a plurality of runtime environments for the data transformation engine*. However, Aho teaches that an intermediate representation is used for generation of suitable executables. See bottom of page 12, e.g. “intermediate code generation.” It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho’s teaching of intermediate code with Upson’s common model format in order to easy translation to target environments as suggested by Aho.

In regard to claim 11, the above rejection of claim 1 is incorporated. Upson and Banning do not expressly disclose: *wherein the first step in generation of the executable version is the conversion step, such that the set of coupled transformation modules are reconfigured directly into the executable version of the coupled transformation module*. However, Aho teaches the direct reconfiguration of a source code into an executable version. See Fig. 1.3 on page 5. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Aho’s teaching of direct reconfiguration

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in order to generate code that runs on a machine as suggested by Aho (see page 4 “The Context of a Compiler”).

In regard to claims 22 and 23, the above rejections of claims 13 and 21 are respectively incorporated. All further limitations have been addressed in the above rejections of claims 10 and 11, respectively.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

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like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. Derek Rutten/
Patent Examiner, AU 2192